

581.526.325

• • • , • • •

-
99053 , . . . , 2,

()

() .

151 (157 . . .) , 8 .
- 95 (101 . . .) *Bacillariophyta*, (34)
Dinophyta, 1-8 .

« » *Phaeocystis*
pouchetii, - - *Fragilariopsis*, *Achnanthes*
Corethron.

Cryptomonas sp., *Pyramimonas* sp.
I-III -

XIX .,

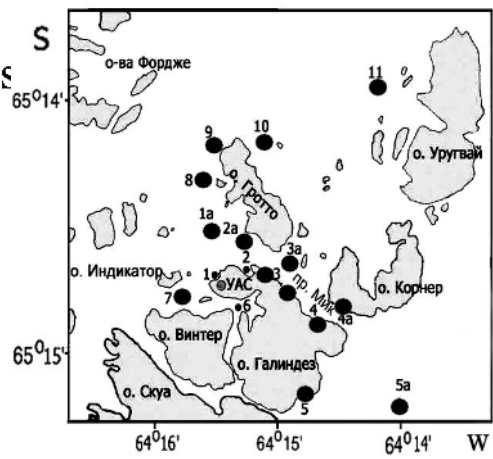
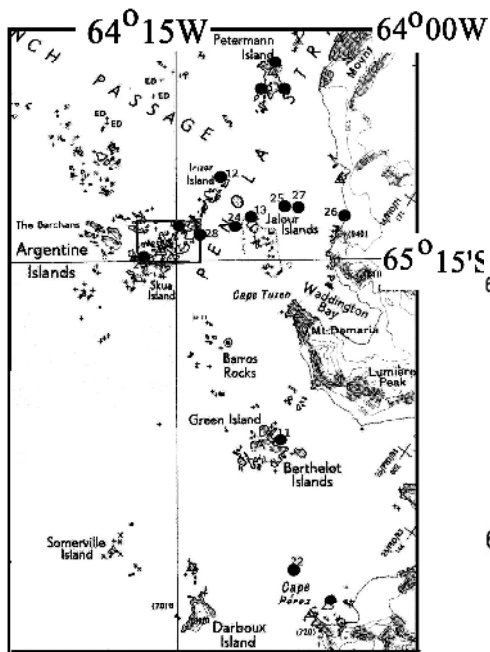
(Karsten, 1905; Mangin, 1915; Hart, 1934; Hustedt,
1958; , 1959; Manguin, 1960; , 1964; Balech, El-Sayed, 1965;
1973; , 1973; Balech, 1973; ., 1982; Kopczynska, Ligowski, 1982,
1985; , 1983; Hirano, 1983; , 1985; , 1990, 1993;
, 1993; Bidigare et al., 2001; .),

(, 2004; ., 2005, , , 2006).

30 , « 104 » ().

2002 . 2003 . 7-10- (- 2005).

), (.)).



(0,7-5)

2002 . (10-20).

(. 1).
(, 1983)

1-1,1 . 20-120

2 %.

“Amplival” (CARL ZEISS) ()
(2-15) ×120, 240 480. -
(15) – 0,01 ,
0,4-0,8 .

(, 1978, 1986)

()

(Shannon, Weaver, 1949).

(Karsten, 1905; Mangin, 1915; Hustedt, 1958; Manguin, 1960; , 1964;
Hasle, Huimdal, 1967; Balech, 1973; Sournia et al., 1979; ., 1982; Hirano,
1983; Priddle, Fryxell, 1985;).

(..., 2000),

(*Prymnesiophyta* Hibberd – *Prymnesiophyceae* Hibberd – *Coccolithophorales* Schiller),

(Identifying ..., 1997).

2002 .
2003 ., 124 (126 . .)
8 (73 %)
Bacillariophyta – 90 (92 . .), (16,6 %)
Dinophyta (21). 1-3 (. 1).

2005 ., 27
(31 . .), (. 1, .
)
151 (157 . .) (64,3 %)

Nitzschia, *Licmophora*, *Amphora*, *Navicula*, *Fragilaria*,
Cocconeis, *Diploneis* ..

1.

	()					
	.	%	.	%	.	%
	2002 .,	2003 .	-	2005 .	, 2002- 2003, 2005 .	
<i>Bacillariophyta</i>	90 (92)	73	32 (36)	51,5	95 (101)	64,3
<i>Dinophyta</i>	21	16,6	20	28,6	34	21,7
<i>Prymnesiophyta</i>	2	1,6	8	11,4	8	5,1
<i>Chrysophyta</i>	2	1,6	-	-	2	1,3
<i>Chlorophyta</i>	3	2,4	4	5,7	6	3,8
<i>Cyanophyta</i>	3	2,4	1	1,4	3	1,9
<i>Cryptophyta</i>	2	1,6	1	1,4	2	1,3
<i>Euglenophyta</i>	1	0,8	-	-	1	0,6
	124 (126)	100	66 (70)	100	151 (157)	100

(11) (.) *Chaetoceros*
(11), *Fragilariopsis* (7), *Asteromphalus* (5), *Coscinodiscus* (4),
(5-6)
Gyrodinium, *Prorocentrum* *Protoperidinium*. (*Prymnesiophyta*)
Rhabdosphaera 4 .

(2002-2003 2005 .)

Bacillariophyta
Coscinodiscophyceae

<i>Actinocyclus octonarius</i> Ehr.	<i>Coscinodiscus oculus-iridis</i> Ehr.
<i>Asteromphalus heptactis</i> (Bréb.) Ralf	<i>C. stellaris</i> Roper.
<i>A. hookeri</i> Ehr.	<i>Coscinodiscus</i> sp.
<i>A. hyalinus</i> Karst.	* <i>Cyclotella</i> sp.
<i>A. parvulus</i> Karst.	<i>Dactyliosolen antarcticus</i> Castr.
<i>A. robustus</i> Castr.	<i>Eucampia antarctica</i> (Castr.) Mangin
<i>Asteromphalus</i> sp.	<i>E. zodiacus</i> Ehr.
<i>Chaetoceros castracanei</i> Karst.	<i>Odontella polymorpha</i> Mangin
<i>Ch. compressus</i> Laud.	<i>O. weissflogii</i> (Jan.) Grun.
<i>Ch. concavicornis</i> Mangin	<i>O. aurita</i> (Lyngb.) C.A. Agardh.
<i>Ch. convolutes</i> Castr.	<i>Paralia</i> sp.
<i>Ch. criophilus</i> Castr.	<i>Porosira glacialis</i> (Grun.) Jörg.
<i>Ch. dictaeta</i> Ehr.	<i>P. pseudodenticulata</i> (Hust.) Jousé

Chaetoceros flexuosus Mangin
Ch. neglectus Karst.
Ch. neogracile Vanlend.
Ch. socialis Laud.
Ch. tortissimus Gran
Chaetoceros sp.
Charcotia irregularis M. Per.
Corethron criophilum Castr.
Coscinodiscus bouvet Karst.
C. furcatus Karst.

Fragilaria striatula Lyngb.
Fragilariopsis curta (V. Heurck) Hust.
F. cylindrus (Grun.) Krieger
F. kerguelensis
F. obliquecostata (V. Heurck) Heid. & Kolbe
F. oceanica (Cl.) Hasle
F. ritscheri Hust.
F. rhombica (O'Meara) Hust.
Fragilariopsis sp.

* *Amphipleura rutilans* var. *antarctica* (Harw.)
 Grun.
Achmanthes brevipes Ag.
A. longipes Ag.
Amphiprora kjellmanii Cl.
Amphiprora sp.
Amphora ovalis Kütz.
A. veneta (Kütz.) Hust.
Amphora sp.

Cocconeis adeliae Manguin

C. costata var. *antarctica* (Greg.) Manguin
C. infirmata Manguin
C. imperatrix A. Schm.
Cocconeis sp.
Cylindrotheca closterium (Ehr.) Reim. & Lew.
Diploneis latefurcata (Font.) Cl.
Diploneis sp.
 * *Manguinea fusiformis* (Manguin) Paddock
Membraneis challengerii (Grun.) Paddock

Amphidinium crassum Lohm.
A. extensum Wulff
 * *A. larvale* Lind.
Cochlodinium sp.
 * *Glenodinium paululum* Lind.

Proboscia alata (Brightw.) Sundström
P. inermis (Castr.) Jördan & Ligow.
P. truncata (Karst.) Nöt. & Ligow.
Rhizosolenia antarctica Karst.
Rhizosolenia sp.
Schimperella antarctica Karst.
Thalassiosira antarctica Comb.
T. rotula Meunier
Thalassiosira sp.
Triceratium arcticum Brightw.

Fragilariophyceae

* *Grammatophora arcuata* Ehr.
Grammatophora sp.
Licmophora abbreviata Ag.
L. antarctica Carlson
Licmophora sp.
Lioloma pacificum (Cupp) Hasle
Synedra sp.
Thalassionema nitzschioides Grun.
Thalassiothrix antarctica (Schim.) Karst.

Bacillariophyceae

Navicula directa W. Sm.

N. molesta Kras.
Navicula sp.
Nitzschia holsatica Hust.
N. longissima var. *reversa* W. Sm.
N. sicula (Castr.) Hust.
N. tenuirostris Mer.
Nitzschia sp.

 * *Pinnularia fluminensis* var. *kerguelensis* (Grun.)
 Manguin
 * *P. quadratarea* var. *soederlundii* (A. S.) Cl.
 * *P. quadratarea* var. *baltica* (A. S.) Grun.
 * *Pleurosigma* Clevei Grun.
P. direcum Grun.
 * *Pseudonitzschia antarctica* Manguin
P. delicatissima Cl.
P. pseudodelicatissima Hasle
P. pungens (Grun. & Cl.) Hasle
P. seriata (Cl.) H. Per.
Tropidoneis laevisissima G. S. West

Dinophyta

Dinophyceae

Oxytoxum gladiolus Stein
O. scolopax Stein
 * *O. sphaeroideum* Stein
Oxytoxum sp.
 * *Pronoctiluca spinifera* (Lohm.) Schill.

* *Gymnodinium agiliforme* Schill.
* *Gymnodinium simplex* (Lohm.) Kof. & Sw.
* *G. wulffii* Schill.
Gymnodinium sp.
Gyrodinium conicum Schill.
G. fusiforme Kof. & Sw.
G. lachryma (Meunier) Kof. & Sw.
* *G. pingue* (Schütt) Kof. & Sw.
* *G. wulffii* Schill.
Gyrodinium sp.
* *Heterocapsa triquetra* (Ehr.) Balech

* *Prorocentrum antarcticum* (Hada) Balech
P. balticum (Lohm.) Loeb.
P. cordatum (Ostf.) Dodge
* *P. micans* Ehr.
* *P. triestinum* Schill.
Prorocentrum sp.
Protoperidinium antarcticum (Schimp.) Balech
P. brevipes (Pauls.) Balech
P. divergens (Ehr.) Balech
P. globules Stein
P. minusculum Pav.
P. pellucidum (Bergh) Schütt
Scrippsiella trochoidea (Stein) Balech

Prymnesiophyta
Prymnesiophyceae

* *Anacanthoica acanthos* (Schill.) Delf.
Emiliana huxleyi (Lohm.) Hay & Mohler
* *Rhabdosphaera ampullaceal* Lec.-Schl.
* *R. hispida* Lohm.
* *R. tabulosa* Schill.
* *R. tignifer* Schill.
* *Syracorhabdus pulcher* (Lohm.) Lec. & Bernh.
Syracorhabdus sp.

Chrysophyta
Dictyochophyceae

Dictyocha speculum Her.

Haptophyceae

Phaeocystis pouchetii (Hariot) Lagerh.

Chlorophyta
Chlorophyceae

* *Dunaliella* sp.
* *Closteriopsis longissima* Lemm.

Poropila dubia Schill.

Prasinophyceae

Pterosperma cristatum Schill.

Pyramimonas sp.

Ulvophyceae

* *Hormidiopsis crenulata* (Kütz.) Huring

Cyanophyta
Hormogoniophyceae

Oscillatoria tenuis Ag.

Oscillatoria sp.

Chroococcophyceae

Johannesbaptistia pellucida (Dickie) Tailor & Dronet

Cryptophyta
Cryptomonadophyceae

Cryptomonas sp.

Cryptophyceae

Hillea fusiformis Schill.

Euglenophyta
Euglenophyceae

Euglenia sp.

.
*

- 2005 .

Odontella weissflogii, *Amphora kjellmanii*, *Schimperella antarctica*, *Dactyliosolen antarctica*, *Eucampia antarctica*,
Corethron criophilum.

: *Asteromphalus hyalinus*,
A. parvulus, *Chaetoceros neglectus*, *Ch. compressus*, *Ch. dictyota*, *Fragilariopsis curta*,
F. cylindrus, *Cocconeis infirmata*, *Coscinodiscus bouvet*, *Cylindrotheca closterium*,
Porosira pseudodenticulata, *Thalassiosira antarctica*, *Eucampia antarctica*, *Odontella weissflogii*,
Tropidoneis laevissima, *Protoperidinium brevipes*, *P. divergens*,
P. pellucidum.

: *Achnanthes brevipes*, *A. longipes*, *Actinocyclus octonarius*,
Cocconeis imperatrix, *Fragilaria striatula*, *Licmophora abbreviata*, *Navicula directa*,
Triceratium arcticum.

(*Amphora ovalis*, *A. veneta*,
Amphipleura rutilans var. *antarctica*, *Nitzschia holsatica*, *Hormidiopsis crenulata*,
Oscillatoria tenuis).

2002-2003

(. 1)

(-),

36,9 3,5 47,8-2,8 ·⁻³.

Fragilariopsis, *Nitzschia*, *Pseudonitzschia*, *Chaetoceros*,
Licmophora, *Cocconeis*.

Thalassiothrix antarctica, *Corethron criophilum*, *Odontella weissflogii*,

c (55-97 %)

(77-88 %)

, *Fragilariopsis* spp.

48

75 % – 2-5

Gymnodinium, *Prorocentrum*.

149

3136

25

³

3

(. 2).

, , *Eucampia antarctica*, ,
(Lioloma pacificum, Chaetoceros criophilus, C. convolutus,
C. flexuosus, Proboscia inermis),
 (. 2).

2005 .
 (29,6 , 33,3 ·⁻³),
 . 44 92 %

Pyramimonas, Dunaliella (Chlorophyta),
 (250³)

(100-300·10³)
Corethron criophilum (95-100 %).

- 2005 .
 66 (70 .) , 51,5 % -
 . 2002 . 13
 , 9 - , 6 - () , 2 -
 1 (.) .

(,
 , 1998; ., 2003),
 1997 1998 . 22 ,
 13 .
 (2-7)
 70 (

), . .
 - 2005 . (. . 1). 1998 . *Bacillariophyta* 67 % ,
Dinophyta - 17 %

(*C. criophilum*),
Chaetoceros, Fragilariopsis, Licmophora

(1,7-27,7 , 6,1-144,7 ·⁻³)
 (. . 2).

()
 (2,8 , 4,4 ·⁻³),

(113³)
Phaeocystis pouchetii,
 « » ,

« » (108 , 12,3 ·⁻³).

(55,9 , 7,0 ·⁻³),
 36,7 , 4,8 ·⁻³,

P. pouchetii 83-91,7 %

(30-46)

P. pouchetii ,

(0,24).

2.

.«

» (

)

						(%)				N	
	N	B				N					
	10 ⁶ · 3	· 3				2-15	> 15				
-	<u>36.9</u> 4,8-146,9	<u>47.8</u> 8,6-168,0	<u>20</u> 15-25	<u>1.8</u> 1,18-2,68	<u>1612</u> 512-2677	<u>77.3</u> 58,0-94,0	<u>23.0</u> 6,0-42,0	<u>16.0</u> 8,7-42,0	<u>82.0</u> 58,0-91,3	<i>Fragilariopsis</i> sp.	<i>Corethron criophilum</i> , <i>Odontella</i> sp., <i>Fragilariopsis</i> sp.
-	<u>3.5</u> 0,1-7,1	<u>2.8</u> 0,1-7,0	<u>10</u> 3-22	<u>1.42</u> 0,58-2,72	<u>1131</u> 149-3146	<u>83.4</u> 72,8-97,0	<u>16.8</u> 3,0-35,7	<u>55.1</u> 6,0-88,1	<u>44.9</u> 11,9-94,0	<i>Fragilariopsis</i> sp.	<i>Thalassiothrix antarctica</i> , <i>Eucampia antarctica</i> ,
-	<u>14066.0</u> 2,8-109062,6	<u>2276.5</u> 4,4-13475,0	<u>32</u> 16-46	<u>2.0</u> 0,24-3,24	<u>2094</u> 123-4326	<u>71.8</u> 2,1-99,8	<u>28.2</u> 0,2-97,9	<u>20.5</u> 0,2-91,7	<u>79.5</u> 8,3-99,8	<i>Phaeocystis pouchetii</i> , <i>Thalassiosira antarctica</i> , <i>Fragilariopsis</i> sp., <i>Chaetoceros</i> sp., <i>Achnanthes brevipes</i>	<i>Coscinodiscus</i> sp., <i>Phaeocystis pouchetii</i> , <i>Fragilariopsis</i> sp., <i>Achnanthes brevipes</i> , <i>Thalassiosira antarctica</i> , <i>Odontella</i> sp.
-	<u>232.6</u> 33,8-1065,0	<u>171.8</u> 43,8-472,7	<u>18</u> 8-30	<u>1.62</u> 1,23-2,32	<u>1262</u> 444-2128	<u>79.4</u> 51,9-93,4	<u>20.4</u> 6,6-48,1	<u>24.9</u> 8,3-76,1	<u>75.1</u> 23,0-91,7	<i>Cryptomonas</i> sp., <i>Pyramimonas</i> sp., <i>Chaetoceros</i> sp.,	<i>Corethron criophilum</i> , <i>Cryptomonas</i> sp., <i>Pyramimonas</i> sp.,
; N -											

(Rodriguez et al., 2002 , b; Varela et al., 2002)
Phaeocystis sp.
 (-),
 (Bidigare et al., 2001). -

(Kopczynska, Ligowski, 1982, 1985; , 2004).
P. ouchetii ,
 (67 , 245 ·⁻³).

(3,24) ,

(*Chaetoceros*, *Fragilariopsis*, *Nitzschia*, *Oxytoxum*, *Amphidinium*, *Gymnodinium*,
)
orethron criophilum .

Coscinodiscus, *Membraneis*, *Asteromphalus*, *Thalassiosira antarctica*,
Charcotia irregularis, . 2-3
Fragilariopsis , -

(8
)
 , . 2 , 2,7 ·⁻³

Achnanthes brevipes (133 , 287 ·⁻³).

, , (0,28-
 2,1 , 0,38-3,0 ·⁻³). *Fragilariopsis* spp.
Ach. brevipes 100

, (, 2005).
 -
Fragilariopsis *Ach. brevipes*, , -
 , 20 , -
 , ,
orethron criophilum (2 , 227 ·⁻³),
 61-70 % , -
 (79 %)
Chaetoceros , -

(. . 2).
 ,
 (330-650 ³)
Cryptomonas (*Cryptophyta*) *Pyramimonas* sp. (*Chlorophyta*),
 « »

122 $\cdot 10^{-3}$) *Cryptomonas* sp., *Pyramimonas* sp., (369 ,
(0,50) . - ,
« » (1 , 472 $\cdot 10^{-3}$). - ,
-1,2
0 ,
Cryptomonas sp. *Pyramimonas* sp. (,
),
-
(, 1993; Bidigare et al., 2001; Rodriguez et al.,
2002a,b; Varela et al., 2002).
« » ,
, (1), 139 , 109 $\cdot 10^{-3}$,
18 10 $\cdot 10^{-3}$.
- (87 %)
Chaetoceros , 62 %
orethron riophilum.
Gymnodinium,
Amphidinium, *Prorocentrum*,
- , (asl , 1969;
Krebs, 1970; Kocczynska, 1981, 1996; , 1993; , 2005).
, , ,
, ,
(-) *Fragilariopsis*
, . *riophilum*
- .
2002-2003 . 2005 . ,
151 (157 . .) , 8
- 95 (101 . .)
Bacillariophyta, *Dinophyta* (34),
1-8 .



(-),

Fragilariopsis),

orethron riophilum, *Odontella* spp., *Thalassiothrix antarctica*.

Phaeocystis,

Fragilariopsis spp., *Achnanthes brevipes* . *riophilum*.

Cryptomonas, *Pyramimonas*

I-III

(Margalef, 1958).

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SPECIES DIVERSITY OF PHYTOPLANKTON IN THE WATERS
OF ARGENTINE ISLANDS (ANTARCTIC)

Results of studies of species diversity of phytoplankton are presented for the waters of Argentine islands. Water samples were collected during 7th (2002-2003) and 10th (autumn 2005) Ukrainian antarctic expeditions. Seasonal variations in the community species composition have been described; the dominant species and taxa, and the time periods of their vegetation were identified for the first time in the waters of Argentine islands. A total of 151 microalgal species (157 taxa, including subspecies and varieties) were recorded, which represented 8 taxonomic divisions. *Bacillariophyta* (95 spp., 101 taxa) and *Dinophyta* (34 spp.) were the most species-rich divisions while the others were represented by 1 to 8 taxa only. The highest species diversity was registered in spring and early summer. Three main peaks of the phytoplankton abundance occurred annually during the spring-summer period, corresponding with population maxima of *Phaeocystis pouchetii* (*Chrysophyta*) in October, the diatom genera *Fragilariopsis*, *Achnanthes* and *Corethron* in November and early December, and a bloom of *Cryptomonas* sp., *Pyramimonas* sp. and other small flagellates in the middle January. Changes in the list of the dominant species, their abundance and size distribution were in accordance with the I to III stages of the spring-summer succession. In autumn and early polar winter when the vegetation was extinct, phytoplankton abundance and species diversity were low.

Keywords: phytoplankton, species diversity, abundance, biomass, Argentine islands, Antarctic.

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– . 128-146.
... , 1993. –
. 32. – . 141-150.
... , 2005. – 208 .
...)// ... , 1993. – . 31.
– . 159-166.
... « »
1957-1958 // ... , 1959. – . 10. –
. 29-32.
... « »// . – 1998. – . 2. – . 198-203.
... – : ,
1964. – 167 .
... // . – 2004. – 2.
– . 125-137.
... « »//
: . . (, 29 – 2 2006 .) – ., 2006.
– . 133.

- ... // ... - 1993. - . 116-124.
- ... 1970 // ... - 1973. - **84**, . 4. - . 55-62.
- ... / ... // ... - 2000. - **10**, . 4. - 309 .
- ... // ... - 1993. - . 197-203.
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- ... (...) // ... - 2003. - . 1. - . 107-113.
- ... : ... 2002 // ... - 2005. - **4**, . 2. - . 68-81.
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27.02.07